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Images in Cardiology

A cortical stroke secondary to an isolated left ventricular noncompaction in a 29-year-old female



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Left ventricular (LV) noncompaction is a rare form of cardiomyopathy occurring in-utero when the segments of spongy myocardium fail to transform into a compact form with subsequent formation of prominent myocardial trabeculae and deep intra-trabecular recesses.¹ This condition may be asymptomatic; however, clinical presentations with systolic dysfunction, atrial and ventricular arrhythmias may occur. Thrombus formation within the inter-trabecular recesses may result in thromboembolic events.² We report a case of a 29-year-old woman who sustained a middle cerebral

artery (MCA) territory stroke and presented with receptive aphasia and right hemiparesis. Brain magnetic resonance (MR) imaging revealed an infarction of the superior parietal lobe and insula while MR angiography of circle of Willis showed a distal clot in the superior branch of the left MCA. Extended HOLTER monitoring and a thrombophilia screen were unremarkable. Transthoracic echocardiography revealed normal LV internal dimensions and global systolic function (EF 60%), and no resting segmental wall motion abnormalities, prominent trabeculations of the apico anterior, apical and mid inferior, apical and mid lateral LV wall segments were evident, the end-systolic ratio of noncompacted-to-compacted LV myocardium was 2.4 in the apico anterior segment, 2.5 in the apical and mid inferior wall segments, and 2.2 in the apical and mid lateral wall segments, no LV thrombi were detected. Cardiovascular MR imaging revealed deep intra-trabecular recesses in the apical and adjacent distal areas of lateral and inferior walls communicating with the LV cavity and the ratio of the noncompacted myocardium to the compacted myocardium was more than 2.3. Given the rarity of this condition and despite the lack of supportive literature evidence, the patient preferred to start one of the new oral anticoagulants.

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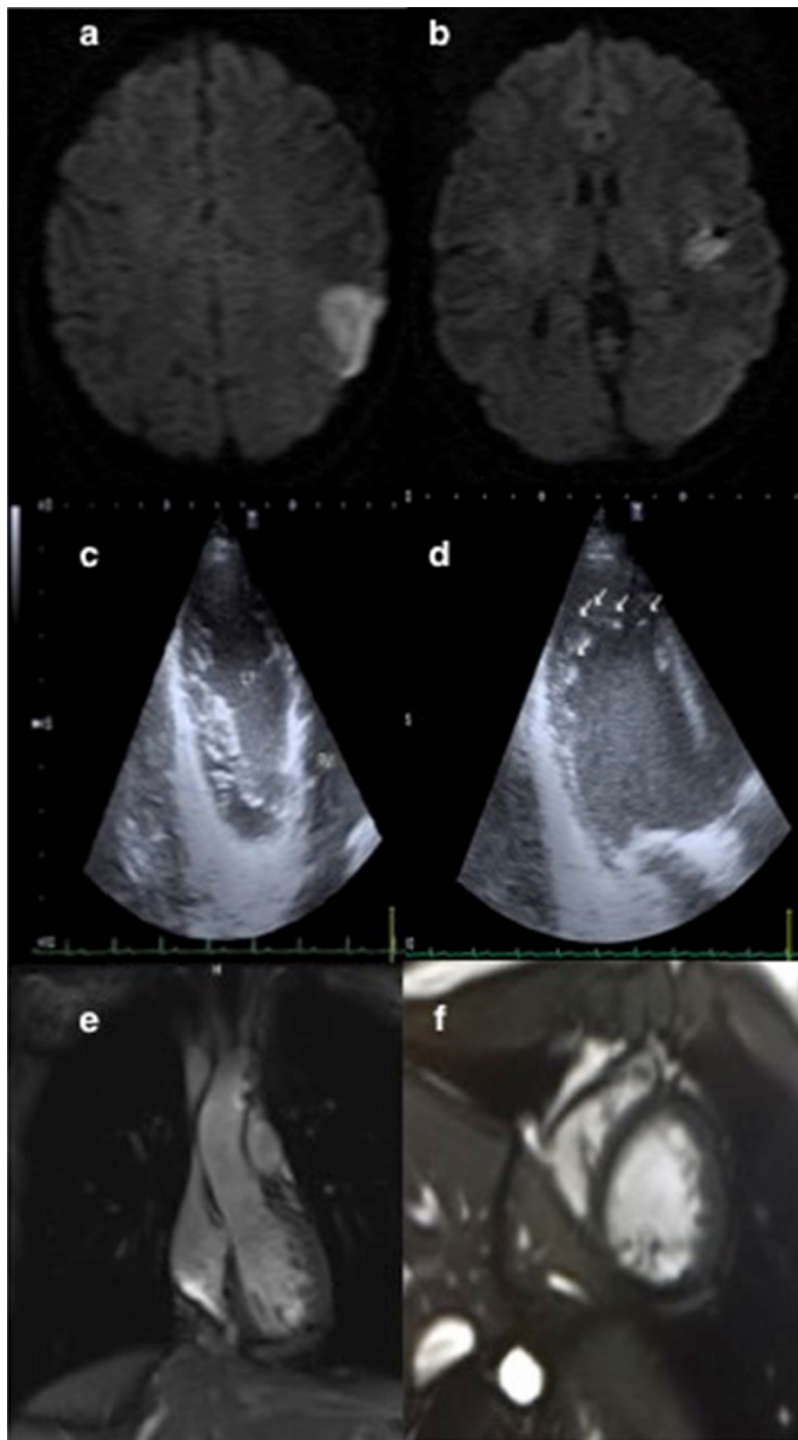


Fig. 1 - (a, b) Axial MRI brain images showed restricted diffusion in diffusion-weighted images in the left superior parietal and insular areas; (c, d) TTE shows thickened, noncompacted myocardial layers with excessive trabeculations; (e, f) Cardiac MRI shows zones of noncompaction involving the apex and apical portions of the inferior and lateral walls.

Conflicts of interest

The authors have none to declare.

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